The Naval Fortress: A New Sea Denial Option in the Twenty First Century

PhD Shang-su Wu

S. Rajaratnam School of International Studies, Nanyang Technologic University, Singapore

issswu@ntu.edu.sg

Most naval fortresses were retired from service after the end of the Second World War, but new defence technologies and geostrategic environments may indeed revive the fortress concept, and turn it into a new option for a sea denial strategy, especially for relatively small or weak countries. This paper will firstly review the reasons why fortresses went out of style, secondly explore the present environmental and technological factors for reconsidering their use, thirdly elaborate on the limitations of modern naval fortresses, and finally discuss how fortresses fit the geostrategic environment of the Twenty First Century.

The Changing Conditions of Naval Fortresses

It can be observed that fortresses indeed have better protection and firepower compared to vessels, as weight and space do not impinge on such issues. In several historical cases, such as the 1904 Siege of Port Author during the Russo-Japanese War, the strategic and tactical values of naval fortresses were demonstrated. However, after the Second World War, their universal retirement made it clear that the heavy protection of naval fortresses was inadequate for new operational and tactical considerations, due to nuclear weapons, anti-ship missiles and mobile warfare. Furthermore, the bipolar and then subsequent unipolar maritime balance of power also contributes to the infeasibility of fixed coastal defence.

However, such factors operating during the Cold War era have altered in this century and may endow naval fortresses with new significance. Firstly, the non-proliferation mechanisms and reduced levels of confrontation between nuclear powers, in addition to the fact that many potential hot spots concern issues between nuclear and non-nuclear countries, all make for a reduced potential in nuclear engagement, and allow the focus of warfare to be shifted back to conventional arms. In terms of conventional arms, naval fortresses would be more likely to survive, except for a few types of "bunker busters." Secondly, despite the US Navy's current superiority over other counterparts, several rising naval powers, particularly China, are potentially just as likely or even more likely to get involved in naval conflicts. The gradual development in Washington of increasingly passive attitudes toward using force overseas provides newer naval powers with room to exert their influence. Compared to the US Navy, the new navies have a weaker ability to project their firepower due to their lower capabilities in naval aviation. Bunker busters place a heavy burden on such limited aviation capability, with the result that it may prove difficult to use air power with conventional arms to neutralise a naval fortress.

Finally, naval fortresses present a form of a countermeasure for coastal countries challenged by new rising naval powers. Without the weight and space restrictions of vessels, most long-range weapon systems can be freely to be adopted for use in naval fortresses to cover significant areas of sea territory. A modern naval fortress with missiles and other arms could be able to deny hostile naval activity in territorial waters and exclusive economic zones (EEZ) up to 200 nautical miles from baselines. Moreover, the lack of constraints on space and power would facilitate easy future upgrades with new weapon systems, such as electromagnetic guns or lasers. As for defence and protection, this can be divided into active and passive aspects. For active defence, modern naval weapon systems can be designed to form several layers of air defence, thus minimising air strike by an adversary, in the form of both aircraft and missiles. In respect of passive protection, fortress

design's freedom from weight limitation means that concrete and metal materials can be sufficiently used, as well as hollow layered and reactive armour, thus further reducing the effects of explosive and armour piercing warheads. The lack of threat from sinking or underwater attack clearly endows fortresses with better survivability compared to vessels. Furthermore, decision makers would not need to have concerns about national reputations or "losing face" as when capital ships are lost in battle. In other words, naval fortresses may present a more robust alternative compared to major surface ships or submarines, or at least provide a useful supplement to fleets.

Limitations on Fortresses

The obvious defect of fortresses is their lack of mobility. They are also unable to provide diplomatic functions, such as venues for friendly visits, and other peacetime missions, such as law enforcement at sea. Furthermore, despite equipping them with long range weapon systems, naval fortresses can only cover a tiny section of the high seas and are unlikely to support remote locations. For a country with large territorial waters, such as Indonesia, a few fortresses would not provide comprehensive defence. Finally, new defence technology such as major improvements in projectiles may also threaten naval fortresses.

In summary, naval fortresses could provide in this century a potentially significant alternative to existing means of sea denial, and would be more likely to be used as an adjunct to existing assets.